ABSTRACT

An inspection method is provided for accurate measurement of conductive materials as defects within a silicon oxide film base material embedded in a SOI wafer sample. In the method, the internal state of a sample 2 is inspected by measuring an conductive material within an insulating base material 11 formed upon the sample 2. Ions or electrons are irradiated upon the surface of the inspection region of the base material 11. A surface image is imaged with secondary electrons emitted from the surface 11a and the vicinity of the surface. The inspection region is etched and a surface image is imaged successively with secondary electrons emitted from a surface 11b and from its vicinity, renewed successively at the etched depth. The conductive material within the base material 11 is measured based upon the accumulated surface images.